Oakleaf hydrangea (Hydrangea quercifo-
lia Bartr.; family Hydrangeaceae Dumort.)
is an ornamental shrub that is native to
the southeastern United States (McClintock, 1957).
Most plants grow 2 m or taller in height with
an equal to wider spread (Dirr, 2004). Cream-
colored conical inflorescences up to 30 cm
in length are produced in early summer and
often turn an attractive pink color as they age.
Mahogany-red fall foliage and exfoliating bark
provide fall and winter interest in the land-
scape. Inflorescences consist of a combination
of showy sterile and inconspicuous fertile
flowers.

Approximately 40 oakleaf hydrangea cul-
tivars have been described (Dirr, 2004, 2009;
vander Gelderen and vander Gelderen, 2004). Oakleaf
hydrangea cultivars differ primarily in floral
characteristics and plant size. Although most
cultivars have inflorescences consisting of
single flowers, hose-in-hose double ('Snow-
flake') and fully sterile-flowered ('Harmony',
'Vaughn's Lillie') forms are available.
Among the single-flowered forms, culti-
vars differ in proportion of sterile to fertile
flowers. For example, 'Snow Queen' is noted
for having large and numerous sterile flowers,
whereas 'Alison' has an equal distribution of
two types of flowers (Dirr, 2004). Oakleaf
hydrangea sepals turn brown or pink as they age
while 'Sikes Dwarf' turn light pink as they age,
both plants have a open plant habit and ir-
regular shape, giving them a somewhat un-
kempt appearance.

The oakleaf hydrangea breeding program at the U.S. National Arboretum's work site
in McMinnville, TN, was started in 1996 for
the purpose of developing attractive, compact
Oakleaf hydrangea cultivars that would be
suitable for use in small residential gardens.

Reported here are basic botanical descriptions,
origins, and cultural requirements of 'Ruby
Slippers' and 'Munchkin', which are the first
two cultivars resulting from this program.

Origin

Controlled hybridizations were made in 1998 between H. quercifolia 'Snow Queen'
and 'Pee Wee'. Although most of the F1
progeny had the upright, full inflorescences
of 'Snow Queen', none had a compact growth
habit. In 2001, 10 of the most attractive
'Snow Queen' × 'Pee Wee' progeny were
intercrossed using bulked pollen from the
10 selections. A seedling from this second-
generation population was selected in 2004
for further evaluation. In 2006, plants of this
selection were sent for evaluation to nursery
and university cooperators in Alabama, Flor-
da, Georgia, Illinois, Kentucky, Maryland,
Mississippi, Missouri, New Jersey, North
Carolina, Ohio, Oklahoma, Oregon, Pennsyl-
vania, South Carolina, Tennessee, Texas,
Virginia, and Washington. After evaluation
in these locations, this selection was released
in 2010 under the name 'Ruby Slippers'.

Open-pollinated seed was collected in 1997 from H. quercifolia 'Sikes Dwarf'. Two
seedlings from this population, one with a
moderately compact plant habit and the other
with large, upright inflorescences, were hy-
bredized in 1999. A seedling from this second-
generation population was selected in 2002 for
further evaluation. In 2007, it was sent for
evaluation to nursery and university coopera-
tors in the 19 states listed. Based on evalua-
tions at these locations, this selection was
released in 2010 under the name 'Munchkin'.

The cultivar names Ruby Slippers and
Munchkin were registered in 2010 with the
International Cultivar Registration Author-
ity for Hydrangea (Hélène Bertrand, Institut
National d'Horticulture, Angers, France) in
accordance with the International Code of
Nomenclature for Cultivated Plants (Brickell
et al., 2004). Herbarium specimens of both
cultivars have been deposited at the U.S.
National Arboretum Herbarium as cultivar
standards.

Description

Hydrangea quercifolia 'Ruby Slippers'
(NA 73936; PI 658494) is a deciduous,
rounded shrub (Fig. 1A) that reached 1 m
high and 1.5 m wide in 7 years of growth in
McMinnville, TN [USDA Hardiness Zone
6b; U.S. Department of Agriculture (USDA),
1990; Waynesboro silt loam] under full sun
conditions. Mature leaves are ovate to sub-
orbicular in outline, five to seven lobed, truncate
at the base, up to 15 cm long and 17 cm wide,
lobes broad, serrate, and often slightly lobed.
Foliage is medium green [Royal Horticulture
Society (RHS) 137A-B; Royal Horticulture
Society, 2007] on the adaxial leaf surface,
changing to various shades of mahogany red
(RHS 183A–B; 185A; 187A) in the fall. Flow-
ering occurs in early summer. Inflorescences
are up to 25 cm in length and 10 cm in diameter and
are held above the foliage. At full flower, the
external surface of the inflorescence is almost
completely covered by large, showy sepal.

Flowers initially open white (RHS 155A–C)
but quickly begin to turn pink. Sepals eventually
depen into a bright rose color (RHS 59D; Fig.
1B). Flowers are followed by large numbers of
dark brown seed capsules that persist through-
out the winter but are not ornamental.

Hydrangea quercifolia 'Munchkin' (NA
73936; PI 658494) is a deciduous, rounded
shrub (Fig. 1C) that reached 0.9 m high and
1.4 m wide in 9 years of growth in McMinn-
ville, TN [USDA Hardiness Zone 6b; USDA,
1990; Waynesboro silt loam] under full sun
conditions. Mature leaves are ovate to sub-
orbicular in outline, five to seven lobed, trunc-
ate at the base, up to 17 cm long and 18 cm
wide, lobes broad, serrate, and often slightly
lobed. Foliage is medium green (RHS 137A-
B) on the adaxial leaf surface changing to
various shades of mahogany red (RHS 183A–B;
185A; 187A) in the fall. Flowering occurs in
early summer. Inflorescences are up to
17 cm in length and 12 cm in diameter and
are held above the foliage. The external sur-
face of the inflorescence is primarily covered
by large, showy sepals. Flowers open white
(RHS155A–C) aging to medium pink (RHS
182C; Fig. 1D). Flowers are followed by large
numbers of dark brown seed capsules that
persist throughout the winter but are not
ornamental.

Culture

Statements and recommendations on plant
performance and culture are based on informa-
tion provided by nursery and university co-
operators in multiple locations looking at
three plants per site as well as plant per-
formance in replicated trials at the Nursery
Research Center in McMinnville, TN. Like
other oakleaf hydrangeas, 'Ruby Slippers'
and ‘Munchkin’ grow well in moderately fertile, well-drained soil. Both are hardy in USDA Cold Hardiness Zones 5 to 8. They can be grown in full sun or partial shade, but some shade will be beneficial in Zones 7 and 8. Both cultivars can be propagated from softwood cuttings using intermittent mist and 4000 ppm indole 3-butyric acid with rooting occurring within 4 to 6 weeks. They can also be micropropagated. Plants are suitable for either field or container production and will usually produce flowers on small plants the first summer after propagation.

**Outstanding Characteristics and Uses**

‘Ruby Slippers’ and ‘Munchkin’ are well suited for use as specimen plants, in mass plantings, or in the shrub border. Because of their small size, they are particularly useful in small residential landscapes. Both cultivars were selected for compact growth habit and attractive flowering characteristics. Because inflorescences are held above the foliage and covered with large sepals, the cultivars offer outstanding visual appeal. The inflorescences of ‘Ruby Slippers’ turn a deeper, brighter color on aging than do those of ‘Munchkin’, but ‘Munchkin’ is the more compact of the two cultivars. Both cultivars are tightly branched and require little, if any, pruning to maintain a dense shape while under production or in the landscape.

**Availability**

Like other woody ornamental plants released from the National Arboretum, ‘Ruby Slippers’ and ‘Munchkin’ are not patented so may be propagated and sold freely. Plants are available from wholesale, mail order, and a limited number of retail nurseries (source list available on request). The National Arboretum does not have plants of these cultivars available for general distribution but can supply cuttings to nurseries wanting to propagate these plants.

**Literature Cited**


